

REMARKS

Claims 1 through 3, 5, 6, 8, 18 through 20, 22, 23 and 25 are currently pending in the application.

This amendment is in response to the Final Office Action of August 22, 2008.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent 5,655,704 to Sakemi et al. in view of U.S. Provisional Application No. 60/078,472 to Fjelstad and further in view of U.S. Patent 4,209,893 to Dyce et al.

Claims 1 through 3, 5, 6, 8, 18 through 20, 22, 23 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sakemi et al. (U.S. Patent 5,655,704) in view of Fjelstad (U.S. Provisional Application No. 60/078,472) and further in view of Dyce et al. (U.S. Patent 4,209,893). Applicants respectfully traverse this rejection, as hereinafter set forth.

Applicants assert that to establish a *prima facie* case of obviousness the prior art reference (or references when combined) **must teach or suggest all the claim limitations**. *In re Royka*, 490 F.2d 981, 985 (CCPA 1974); *see also* MPEP § 2143.03. Additionally, the Examiner must determine whether there is “an apparent reason to combine the known elements in the fashion claimed by the patent at issue.” *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-1741, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007). Further, rejections on obviousness grounds “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *Id* at 1741, quoting *In re Kahn*, 441, F.3d 977, 988 (Fed. Cir. 2006). Finally, to establish a *prima facie* case of obviousness there must be a reasonable expectation of success. *In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Furthermore, the reason that would have prompted the combination and the reasonable expectation of success must be found in the prior art, common knowledge, or the nature of the problem itself, and not based on the Applicant’s disclosure. *DyStar Textilfarben GmbH & Co. Deutschland KG v. C. H. Patrick Co.*,

464 F.3d 1356, 1367 (Fed. Cir. 2006); MPEP § 2144. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742; *DyStar*, 464 F.3d at 1367.

After carefully considering the cited prior art, the rejections, and the Examiner's comments, Applicants have amended the claimed invention to clearly distinguish over the cited prior art.

Applicants assert that the Sakemi et al. reference in view of Fjelstad reference cannot and does not establish a *prima facie* case of obviousness under 35 U.S.C. § 103 regarding presently amended independent claims 1 and 18 because the Sakemi et al. reference in view of Fjelstad reference does not teach or suggest all the claim limitations of the claimed inventions.

Turning to the cited prior art, the Sakemi et al. reference teaches or suggests a solder ball mounting apparatus using a template 4 to position solder balls 3 from a hopper 12 onto pads 2a of a substrate 2. The substrate 2 only having a plurality of electrodes 2a above the surface of the substrate 2, not having any electrodes whatsoever recessed into the surface of the substrate 2. There is no teaching or suggestion in the Sakemi et al. reference to dispense solder paste from the hopper 12 into or through a template 4 onto the substrate 2. There is no description whatsoever in the Sakemi et al. reference for dispensing solder balls 3 onto electrodes 2a located in recesses or level surfaces of the substrate 2. The Sakemi et al. reference clearly describes solely the placement of solder balls 3 on the curved surfaces of the electrodes 2a which are neither level nor recessed.

The Fjelstad reference teaches or suggests a stencil having apertures therein having a diameter larger than the diameter of a solder ball to be passed therethrough but less than two times diameter of the solder ball to be passed therethrough. The Fjelstad reference contains no teaching or suggestion regarding the spacing of the stencil from the hopper except for the thickness of the standoff 140 preferably being large enough to allow a single solder ball 100 to fall through a substrate aperture and beneath the substrate 130 without allowing more than one solder ball 100 to fall through a respective substrate aperture 135.

The Dyce et al. reference teaches or suggests a hopper 24 for solder balls to be placed in a apertures in a strip 32 to be deformed therein. The Dyce et al. reference contains no written description of the size of the opening of the hopper 24 relative to the size of the solder balls.

Applicants assert that the combination of the Sakemi et al. reference in view of Fjelstad reference in view of the Dyce et al. reference does not teach or suggest the claim limitations of presently amended independent claims 1 and 18 calling for “a hopper having side walls formed at a continuous uninterrupted angle extending from an upper opening at the top of the hopper having a first dimension for feeding spheres into a smaller bottom opening having a dimension smaller than the first dimension of the upper opening extending across said first pattern for dispensing said spheres into said plurality of through-holes extending across said stencil plate, the bottom opening having width in the range of at least two diameters of a conductive sphere to about ten diameters of a conductive sphere, said hopper having a bottom lower surface spaced from an upper surface of the stencil plate a distance about less than one-third the diameter of a conductive sphere” and “a hopper having a top opening having a first dimension narrowing through a continuous constant angle from the top opening to a bottom opening with a second dimension extending across said pattern for dispensing said spheres into said plurality of through-holes of said pattern of said stencil plate, the bottom opening having width in the range of at least two diameters of a conductive sphere to about ten diameters of a conductive sphere, said hopper having a bottom lower surface spaced from an upper surface of the stencil plate a distance in the range of about less than one-half the diameter of a conductive sphere to about less than one-third the diameter of a conductive sphere”. Applicants assert that neither the Sakemi et al. reference nor the Fjelstad reference nor the Dyce et al. reference nor any combination of the Sakemi et al. reference in view of Fjelstad reference in view of the Dyce et al. reference teaches or suggests such claim limitations as the Sakemi et al. reference teaches or suggests a hopper having a vertical wall having a right angle opening at the bottom thereof while the Fjelstad reference has the same configuration or a vertical wall terminating in an enlarged opening and the Dyce et al. reference uses a hopper and a strip. Applicants assert that any combination of the Sakemi et al. reference in view of Fjelstad reference and the Dyce et al. reference teaches or suggests an unknown hopper spaced an unknown distance from a stencil plate. Applicants assert that there is no description regarding any spacing of

that there is no description regarding any spacing of anything in the drawing figures of Fjelstad reference and that the figures cannot be relied on to teach or suggest any spacing without a written description. All the cited prior art contains no written description regarding spacing of the stencil plate from the hopper. Such are not the claimed inventions of presently amended independent claims 1 and 18. Therefore, presently amended independent claims 1 and 18 are allowable as well as the dependent claims therefrom.

Applicants assert that the rejection of the pending claims based upon any combination of the Sakemi et al. reference nor the Fjelstad reference nor the Dyce et al. reference under 35 U.S.C. § 103 is an impermissible hindsight reconstruction of the claimed inventions based solely upon Applicants' disclosure. Applicants assert that the *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1740-1741, 167 L.Ed.2d 705, 75 USLW 4289, 82 U.S.P.Q.2d 1385 (2007) does not permit the use of hindsight in any rejection under 35 U.S.C. § 103. Underlying the obvious determination is the fact that statutorily prohibited hindsight cannot be used. *KSR*, 127 S.Ct. at 1742. Applicants assert that solely Applicants' disclosure teaches or suggests the claim limitations of independent claims 1 and 18 as the prior art contains no such teachings or suggestion. Additionally, Applicants assert that the *KSR Int'l Co. v. Teleflex Inc.* decision overrules any prior CCPA or Court of Appeals for the Federal Circuit decisions permitting the use of any hindsight in any rejection under 35 U.S.C. § 103. Therefore, independent claims 1 and 18 are allowable as well as the dependent claims therefrom.

Applicants request entry of this amendment for the following reasons:

The amendment is timely filed.

The amendment does not require any further search or consideration.

Applicants submit that claims 1 through 3, 5, 6, 8, 18 through 20, 22, 23 and 25 are clearly allowable over the cited prior art.

Applicants request the entry of this amendment, the allowance of claims 1 through 3, 5, 6, 8, 18 through 20, 22, 23 and 25 and the case passed for issue.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "James R. Duzan".

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